

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A method for determining agonist-activity to a cytokinin receptor, comprising:

(1) bringing an examinee substance into contact with a cell transformed with DNA comprising a cytokinin receptor gene, wherein the transformed cell expresses said cytokinin receptor from said DNA;

(2) determining an existence or level of intracellular signal transduction from said cytokinin receptor; and

(3) comparing the existence or level determined in (2) with a second existence or level of intracellular signal transduction from said cytokinin receptor determined in the absence of said examinee substance.

2. (previously presented): The method according to claim 1, wherein growth of said transformed cell is controlled by intracellular signal transduction from said cytokinin receptor, and wherein said existence or level and said second existence or level of intracellular signal transduction from said cytokinin receptor are determined by measuring growth of said transformed cell.

3. (previously presented): The method according to claim 1, wherein said transformed cell is generated from a host cell, wherein said host cell is improved so as to have a lower histidine kinase activity lower than before the improvement.

4. (previously presented): The method according to claim 1, wherein said transformed cell is generated from a host cell having a lowered histidine kinase activity, wherein said histidine kinase activity was lowered by a defect in one or more histidine kinase genes.

5. (previously presented) The method according to claim 1, wherein said transformed cell is generated from a host cell having no cytokinin receptor.

6. (previously presented) The method according to claim 1, wherein said transformed cell is yeast.

7. (previously presented) The method according to claim 1, wherein said transformed cell is budding yeast.

8. (currently amended) The method according to claim 1, wherein said cytokinin receptor is selected from the group consisting of:

- (a) a cytokinin receptor comprising the amino acid sequence of SEQ ID No: 6;
- (b) a cytokinin receptor comprising the amino acid sequence of SEQ ID No: 2;
- (c) a cytokinin receptor comprising the amino acid sequence of SEQ ID No: 4;

~~(d) a cytokinin receptor comprising at least one transmembrane region but fewer transmembrane regions than wild-type cytokinin receptor;~~

(ed) a cytokinin receptor comprising the amino acid sequence of amino acids 196 to 1176 of SEQ ID No: 2;

(fe) a cytokinin receptor comprising the amino acid sequence of amino acids 50 to 1176 of SEQ ID No: 2;

(gf) a cytokinin receptor comprising the amino acid sequence of amino acids 32 to 1036 of SEQ ID No: 4;

(hg) a chimera-type cytokinin receptor comprising extracellular regions, transmembrane regions and histidine kinase regions, all of which are derived from the same cytokinin receptor consisting of the group selected from CRE 1, AHK2 and AHK3, and receiver regions which are not derived from said same cytokinin receptor; and

(ih) a cytokinin receptor comprising the amino acid sequence of (a), (b), (c), (ed), (fe), or (gf) with deletion, substitution, or addition of one or a plurality of amino acids, wherein the amino acid sequence has 80% or higher identity to the amino acid sequence before the deletion, substitution or addition of amino acids, wherein said cytokinin receptor has cytokinin receptor activity and is encoded by a polynucleotide that hybridizes under stringent conditions to a polynucleotide of the nucleotide sequence selected from the group consisting of SEQ ID NOS:1, 3, and 5, and wherein said stringent conditions comprise hybridization at 6 X SSC at 65 °C and washing in the presence of 0.1 X SSC and 0.5% SDS at 68 °C for 30 minutes.

9-19. (canceled)

20. (previously presented): A method for determining agonist-activity to a cytokinin receptor, comprising:

(1) bringing an examinee substance into contact with a cell transformed with DNA comprising a cytokinin receptor gene, and wherein the transformed cell expresses said cytokinin receptor from said DNA;

(2) determining an existence or level of intracellular signal transduction from said cytokinin receptor; and

(3) comparing the existence or level determined in (2) with a second existence or level of intracellular signal transduction from said cytokinin receptor determined in the absence of said examinee substance but in presence of another substance.

21. (previously presented) The method according to claim 20, wherein another substance is a substance having no agonist-activity to said cytokinin receptor.

22-27. (canceled)

28. (currently amended): The method according to claim 1, wherein said cytokinin receptor is encoded by a polynucleotide that~~gene~~ hybridizes under stringent conditions to a polynucleotide ~~of~~comprising the nucleotide sequence selected from the group consisting of SEQ ID Nos: 1, 3, and 5, wherein said stringent conditions comprise hybridization at 6 X SCC at 65 °C and washing in the presence of 0.1 X SSC and 0.5% SDS at 68°C for 30 minutes, and wherein said cytokinin receptor has ~~gene encodes a protein having~~ cytokinin receptor activity.

29. (canceled)